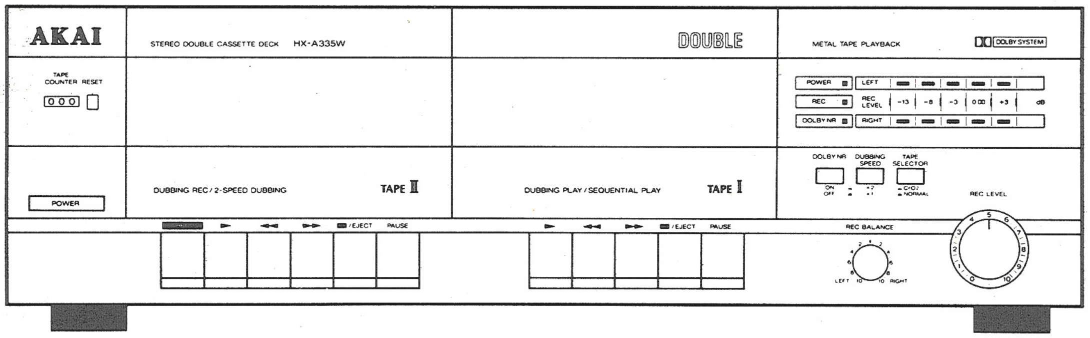
AKAI SERVICE MANUAL


AKAI
STEREO DOUBLE CASSETTE DECK HX-A335W
DOUBLE
METAL TAPE PLAYBACK
DOLBY SYSTEM
TAPE COUNTER RESET
000
POWER
REC
DOLBY NR
LEFT
REC LEVEL
-13
-8
-3
0
+3
dB
RIGHT
DOLBY NR
ON
OFF
DUBBING SPEED
×2
×1
TAPE SELECTOR
CrO2
NORMAL
REC LEVEL
POWER
DUBBING REC / 2-SPEED DUBBING
TAPE II
DUBBING PLAY / SEQUENTIAL PLAY
TAPE I
/EJECT
PAUSE
REC BALANCE
LEFT
RIGHT

STEREO DOUBLE CASSETTE DECK

MODEL HX-A335W

SPECIFICATIONS

Track system	4 track 2 channel stereo
Heads	HD head for playback × 1 HD head for recording & playback × 1 Erase head × 1
Motors	DC motor × 2 (for capstan & reel)
Wow & flutter	0.16 % (DIN)
S/N	57 dB (Measured via tape with peak recording level) Dolby NR switch ON: Improves up to 5 dB at 1 kHz, 10 dB above 5 kHz
T.H.D	Less than 0.9 %
Frequency response	
Normal	30 Hz to 14,000 Hz ± 3 dB
Input sensitivity / Impedance	70 mV / 50 k ohms
Power requirements	220 V, 50 Hz for Europe except UK 240 V, 50 Hz for UK and Australia 110 V-120 V / 220 V-240V, 50/60 Hz convertible for other countries
Dimentions	425(W) × 132(H) × 265(D)-mm (16.7 × 5.2 × 10.4 inches)
Weight	4.4 kg (9.7 lbs)

Standard accessories

Operator's manual	1

* For improvement purposes, specifications and design are subject to change without notice.

* Noise reduction manufactured under license from Dolby Laboratories Licensing Corporasion.
"Dolby" and the double-D symbol are trade of Dolby Laboratories Licensing Corporation.

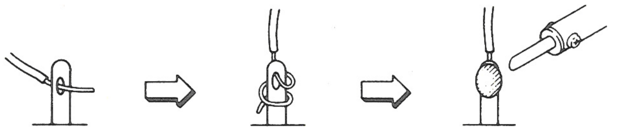
★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠(*) symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.

   These must also be replaced only with specified replacements.

   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal-input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 μF capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.

The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

★INFORMATION

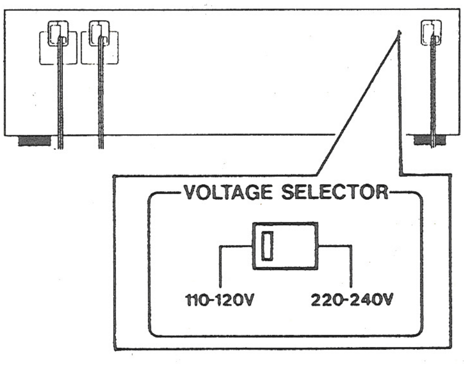
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

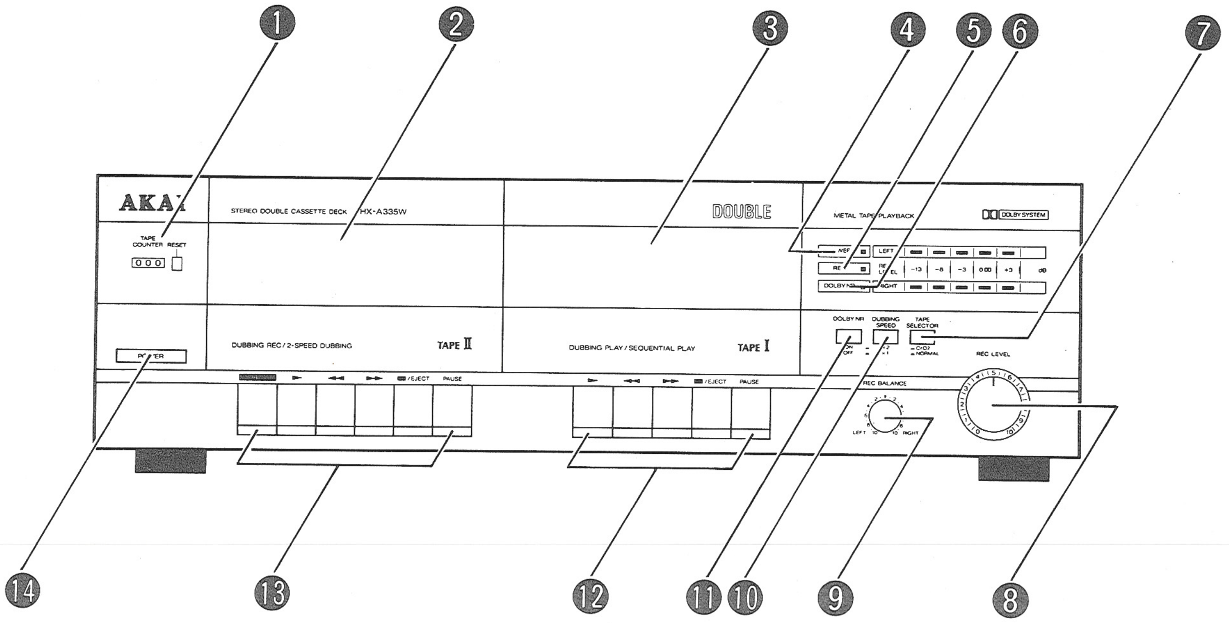
Symbols	Principal Destinations
A	USA
B	UK
C	Canada
E	Europe (except UK)
J	Japan
S	Australia
V	W. Germany only
U	Universal Area
Y*	Custom version

VOLTAGE CONVERSION (U Model only)

Before connecting the power cord. Set the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



I. CONTROLS


①
②
③
④
⑤
⑥
⑦
AKAI
STEREO DOUBLE CASSETTE DECK HX-A335W
DOUBLE
METAL TAPE PLAYBACK
DOLBY SYSTEM
TAPE COUNTER RESET
000
LEFT
REC LEVEL
-13
-8
-3
0 00
+3
dB
RIGHT
DOLBY NR
DOLBY NR
DUBBING SPEED
TAPE SELECTOR
ON
OFF
×2
×1
CrO2
NORMAL
REC LEVEL
POWER
DUBBING REC / 2-SPEED DUBBING
TAPE II
DUBBING PLAY / SEQUENTIAL PLAY
TAPE I
■/EJECT
PAUSE
■/EJECT
PAUSE
REC BALANCE
LEFT
RIGHT
⑭
⑬
⑫
⑪
⑩
⑨
⑧

① **TAPE COUNTER and RESET Button for the TAPE II deck**
Tells you how much tape has run during playback or recording. Use the RESET button to reset the tape counter to "000".

② **TAPE II Cassette Holder and Lid**
Load a cassette tape here for recording and playback.
Does not include auto tape selector.

③ **TAPE I Cassette Holder and Lid**
Load a cassette tape here for playback.
Includes built-in auto tape selector.

④ **POWER Indicator**
Tells you the cassette deck is turned on.

⑤ **REC Indicator**
Tells you the cassette deck is in the recording mode.

⑥ **LED (Light Emitting Diode) PEAK Level Meter (L: Left/R: Right)**
Shows recording and playback levels.

⑦ **TAPE SELECTOR Switch for TAPE II Deck (CrO2 ▬ / NORMAL ▄)**
To select the tape position (equalization and bias) according to the cassette tape being used.
Attention: Do not change the switch during recording as this may result in the recording and playback head being magnetized.

⑧ **REC LEVEL Control**
To set the recording input level. Right and left channel levels are adjusted equally.

⑨ **REC BALANCE Control (L: Left/R: Right)**
To set the recording level balance of the left and right channels. Set the control to its center click position for stereo recording.

⑩ **DUBBING SPEED Switch** (×2▬/×1 ▄)
To select the dubbing speed.

⑪ **DOLBY NR Switch (▬ ON/ ▄ OFF) and Indicator**
To record or playback with DOLBY B-type NR system.
The indicator will light up when the switch is turned on.

⑫ **TAPE I Deck Tape Operation Buttons (PAUSE, ▶▶, ■ /EJECT, ▶ and ◀◀)**
For tape winding and playback operations.

⑬ **TAPE II Deck Tape Operation Buttons (REC, PAUSE, ▶▶, ■/EJECT, ▶ and ◀◀)**
For winding tape, playback and recording operations.

⑭ **POWER Button**
To turn the power on and off.

II. DISASSEMBLY

1-1 Removal of Top and Bottom Covers

1) Remove the screws ① as shown in Fig.1-1 and remove the top cover by sliding it off to the rear.
2) The bottom cover can be removed by removing the 6 screws ②

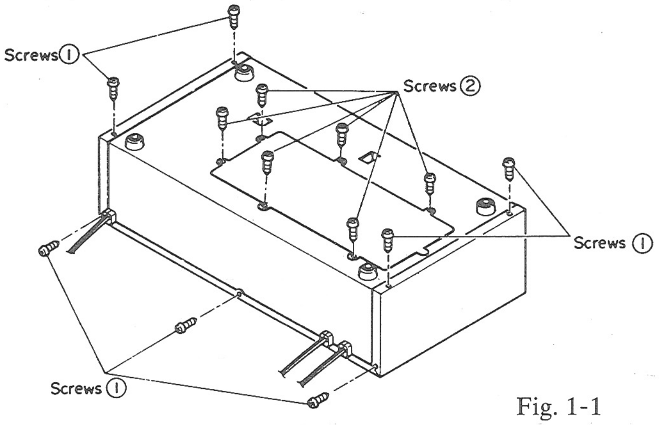

Screws①
Screws②
Screws ①
Screws ①

Fig. 1-1

1-2 Removal of Front Panel

1) Remove the 2 screws ③ on either side of the front panel. The 3 screws ④ on the bottom, and the 1 screw ⑤ on the top, as shown in Fig 1-2.
2) Disconnecting all wiring from the Main P.C.B. and the ground lead connected to the mechanism chassis will permit removal of the front panel.

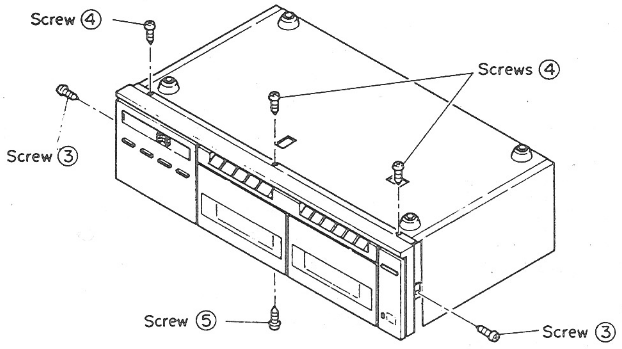

Screw ④
Screws ④
Screw ③
Screw ⑤
Screw ③

Fig. 1-2

1-3 Removal of Mechanism Section

1-3-1 Remocal of Mechanism Assembly

1) Remove the front panel, following the produres in section 2.
2) The mechanism assembly can be removed by pushing the EJECT button, and removing the 6 screws ⑥ which secure the mechanism assembly. (Fig. 1-3)

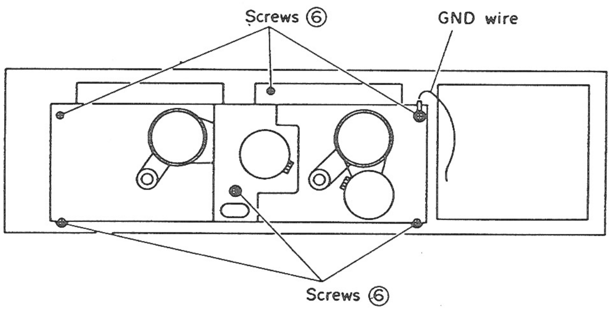

Screws ⑥
GND wire
Screws ⑥

Fig. 1-3

1-3-2 Removal of REC/PB, Erase Head and Pinch Roller

1) The button assembly can be remvoved by removing the 2 screws ⑦ .
2) The REC/PB and Erase heads can be removed by removing their securing screws ⑧ (2 each).
3) After replacing the REC/PB head, be sure to carry out the head azimuth adjustment.
4) Removing the pinch roller by removing the 1 screw ⑨.

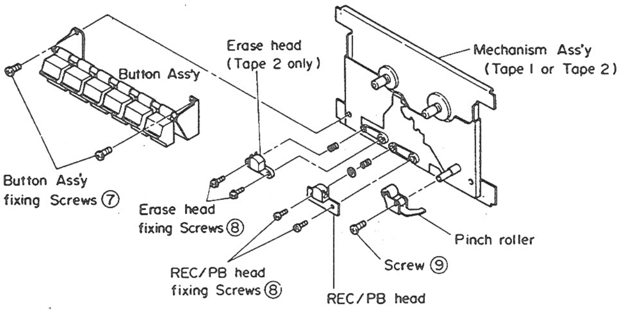

Button Ass'y
Erase head
(Tape 2 only)
Mechanism Ass'y
(Tape I or Tape 2)
Button Ass'y
fixing Screws ⑦
Erase head
fixing Screws ⑧
REC/PB head
fixing Screws ⑧
REC/PB head
Screw ⑨
Pinch roller

Fig. 1-4

1-3-3 Removal of Motor, Flyweel

1) Removing the 2 screws Ⓐ which secure the motor plate will allow disassembly of theplate with the motor 1 still attached.
2) Removing the 2 screws Ⓑ which secure the motor 1 will allow the motor 1 to be removed from the plate.
3) After the motor 1 has been removed, flywheel 1 can be removed.
4) Removing the 6 screws Ⓒ which secure the motor plate will allow desassembly of the plate with the motor 2 still attached.
5) Removing the 3 screws Ⓓ which secure the motor 2 will allow the motor 2 to be removed from the plate.
6) After the motor 2 has been removed, the fly wheel 2 can be removed.

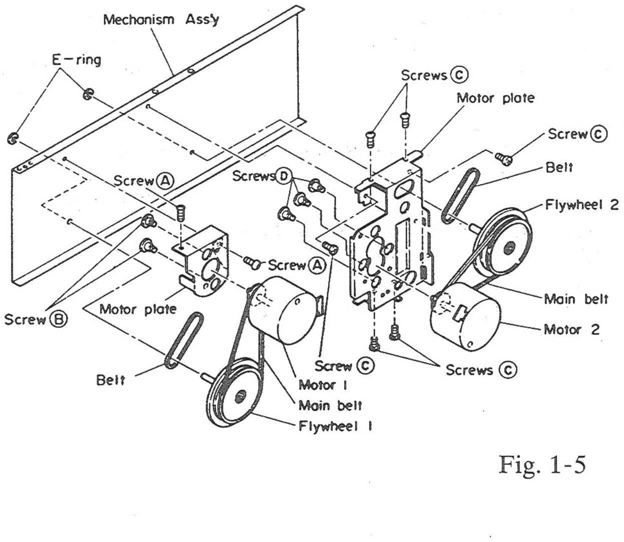

Mechanism Ass'y
E-ring
Screws Ⓒ
Motor plate
Screw Ⓒ
Belt
Flywheel 2
Screw Ⓐ
Screws Ⓓ
Screw Ⓐ
Main belt
Motor 2
Screw Ⓑ
Motor plate
Belt
Screw Ⓒ
Motor I
Main belt
Flywheel I
Screws Ⓒ

Fig. 1-5

III. PRINCIPAL PARTS LOCATION

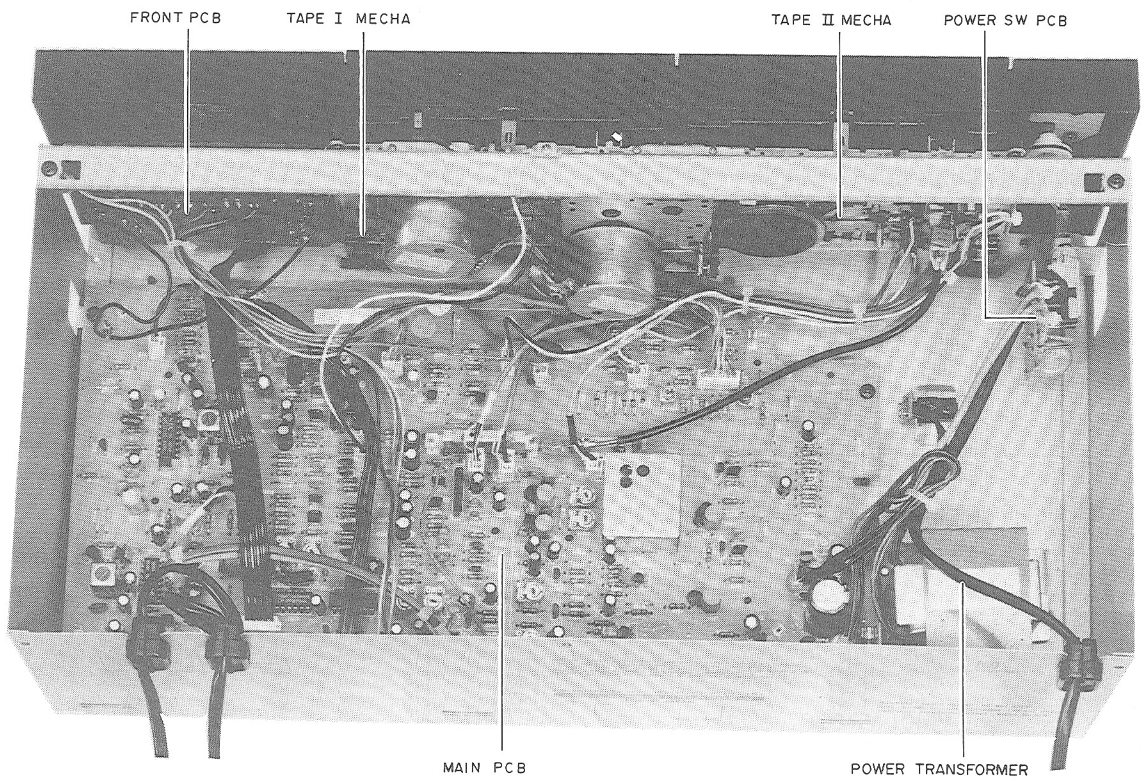

FRONT PCB
TAPE I MECHA
TAPE II MECHA
POWER SW PCB
MAIN PCB
POWER TRANSFORMER

Fig.3-1

IV. ADJUSTMENT

Step	Adjustment Item
	1. Test Tape, Input signal 2. Mode 3. Test point & Adjustment point 4. Result & Remarks

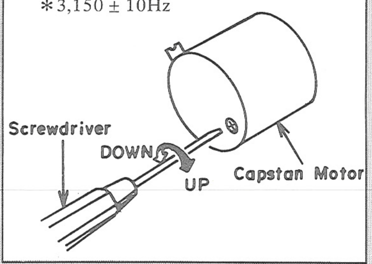
ADJUSTMENT PART →

TEST POINT →

TAPE SPEED ADJUSTMENT

1 NORMAL TAPE SPEED (TAPE II)

1. Test tape 3,150Hz, OVU (AT-751263)
2. PLAY.
3. LINE OUT, Capstan motor (TAPE II)
4. • Connect a frequency counter to LINE OUT.
   *3,150 ± 10Hz


Screwdriver
DOWN
UP
Capstan Motor

2 NOMAL TAPE SPEED (TAPE I)

1. Test tape 3,150Hz, OVU (AT-751263)
2. PLAY
3. LINE OUT, Capstan motor (TAPE I)
4. • Connect a frequency counter to LINE OUT
   *3,170 ± 10Hz

3 HIGH SPEED (TAPE II)

1. Test tape 3,150Hz, OVU (AT-751263)
2. PLAY
3. LINE OUT, VR910
4. • Connect a frequency counter to LINE OUT.
   • Connect the short wire between TP1 and TP2.
   *6,300 ± 10Hz

4 HIGH SPEED (TAPE I)

1. Test tape 3,150Hz, OVU (AT-751263)
2. PLAY
3. LINE OUT, VR909
4. • Connect a frequency counter to LINE OUT
   • Connect the short wire between TP1 and TP2
   *6,340 ± 10Hz

10 BIAS FREQUENCY

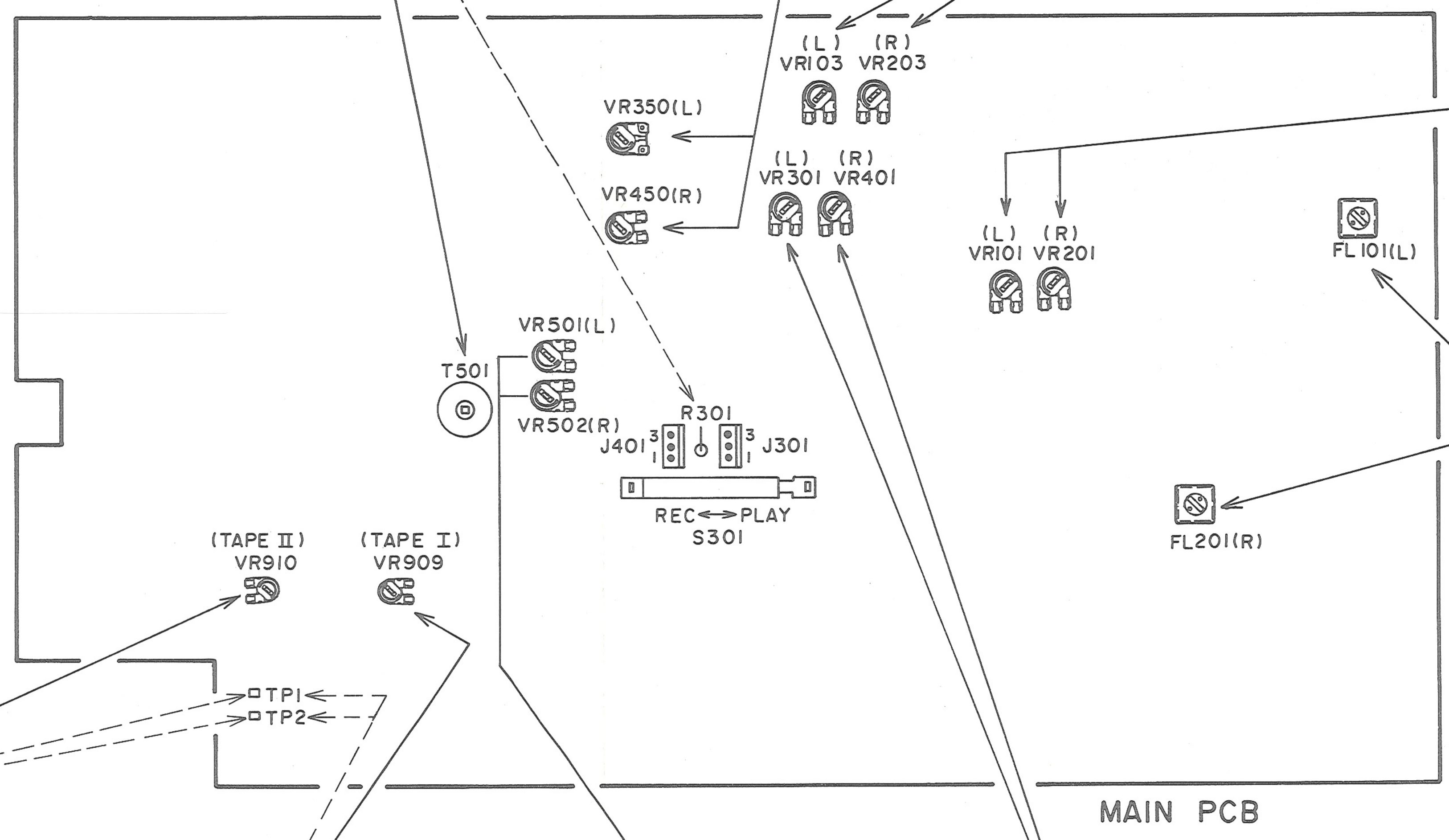
1. ————
2. REC/PAUSE
3. R301 and T501
4. • Connect a fequency counter between R301 and GND.
   • 105kHz ± 300Hz

12 REC LEVEL

1. Normal blank tape, 1000Hz -5.5dBm LINE IN
2. REC & PLAY
3. LINE OUT, VR350(L) VR450(R)
4. • Connect a milli-voltmeter to LINE OUT.
   • -5.5 ± 0.5dBm

8 LEVEL INDICATOR

1. Test tape 315Hz, OVU (AT-750773)
2. PLAY
3. Level meter on the front panel, VR103(L) VR203(R)
4. • -3(dB) green LED of the level meter is light.


(L) (R)
VR103 VR203
VR350(L)
VR450(R)
(L) (R)
VR301 VR401
(L) (R)
VR101 VR201
FL101(L)
VR501(L)
T501
VR502(R)
R301
J401
J301
REC↔PLAY
S301
FL201(R)
(TAPE II)
VR910
(TAPE I)
VR909
TP1
TP2
MAIN PCB

6 PB LEVEL (TAPE I)

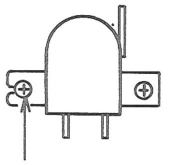
1. Test tape 315Hz, OVU (AT-750773)
2. PLAY
3. LINE OUT, VR101(L) VR201(R)
4. • Connect a milli-voltmeter to LINE-OUT
   • -5.5 ± 0.5dBm.

9 MPX FILTER

1. Normal blank tape, 19kHz ± 10Hz
2. REC/PAUSE
3. LINE OUT, FL101(L) FL201(R)
4. • Connect a milli-voltmeter to LINE OUT.
   • Minimum OUTPUT.

5 HEAD AZIMUTH (TAPE I & TAPE II)

1. Test tape 10kHz, -15VU (AT-750778)
2. PLAY
3. LINE OUT, Head azimuth Adj. screw
4. • Connect a milli-voltmeter to LINE-OUT
   *Maximum output.


Head azimuth adi. screw

11 REC BIAS

1. Normal blank tape, 1kHz & 10kHz-25.5dBm INPUT
2. REC&PLAY
3. LINE OUT, VR501(L) VR502(R)
4. • Connect a milli voltmeter to LINE OUT.
   • Leve difference between 1kHz & 10kHz is within 0.5dBm

7 PB LEVEL (TAPE II)

1. Test tape 315Hz, OVU (AT-750773)
2. PLAY
3. LINE OUT, VR301(L) VR401(R)
4. • Connect a milli-voltmeter to LINE-OUT
   • -5.5 ± 0.5dBm.

V. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A] : AAL (U.S.A)	[S] : SAA (Australia)
[B] : BEAB (England)	[U] : U/T (Universa Area)
[C] : CSA (Canada)	
[E] : CEE (Europe)	[V] : VDE (W. Germany)
[J] : JPN (Janan)	[Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No.listed at right of Part No.

WARNING

⚠(*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠(*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

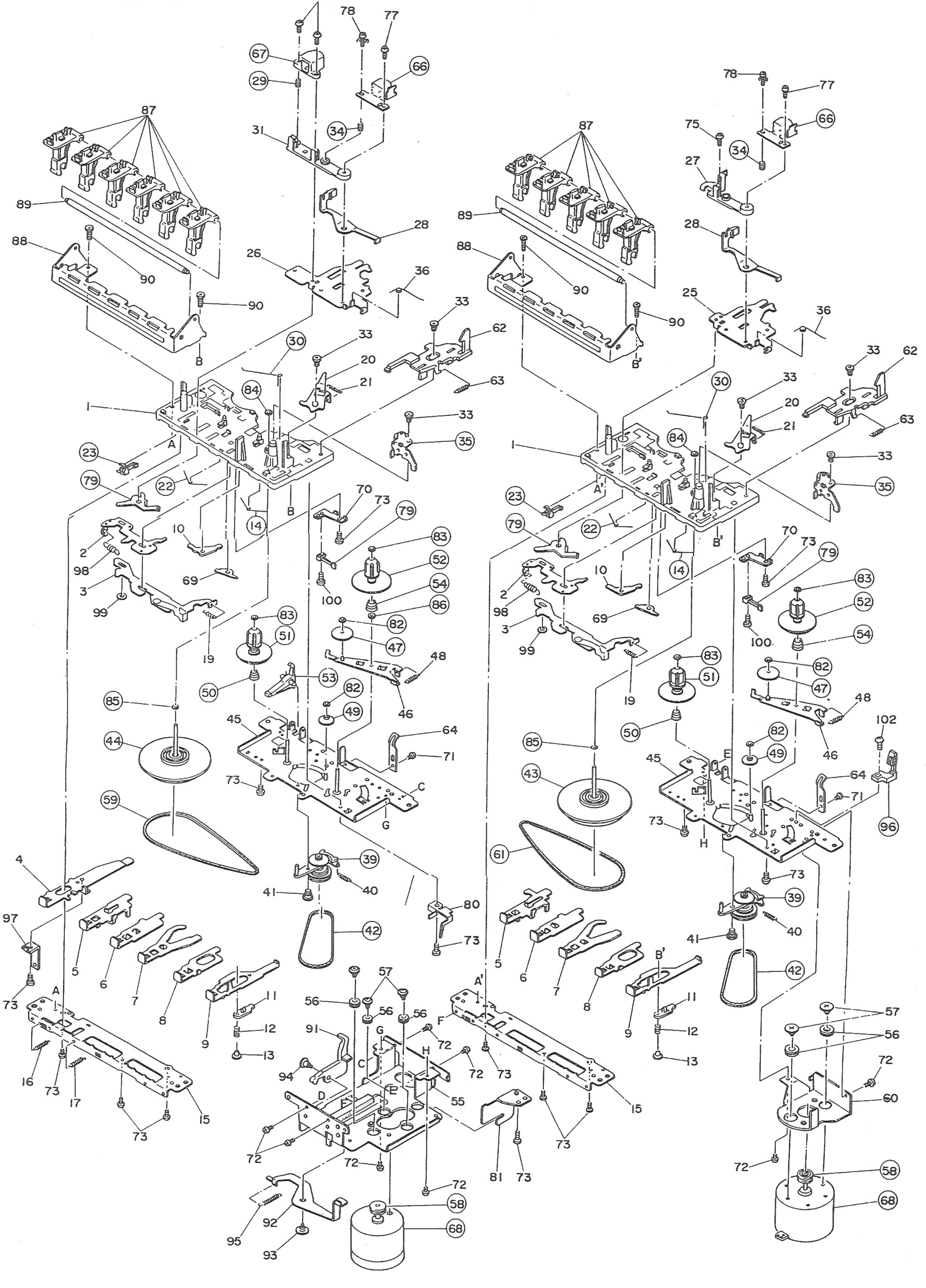
Ref. No.	Part No.	Description
1	BB-720738	MECH BLK HX-A305W
2	BF-717793	FLYWHEEL ASSY
3	BF-717792	FLYWHEEL PART P
4	BL-721068	PULLEY RF ASSY
5	BM-720761	MOTOR M9H12U16-4CCW
6	BR-726505J	SUPPLEY REEL ASSY
7	BR-717799	TAKE-UP REEL TABLE BLK
8	*BT-725635T	TRANS POW HX-M459W(B,S) [B,S]
9	*BT-725636T	TRANS POW HX-M459W(E,V) [E,V]
10	*BT-725637T	TRANS POW HX-M459W(U) [U]
11	ED-720783	D LED LTL-3233A GREEN
12	ED-720784	D LED LTL-3293A YELLOW
13	ED-327057	D SILICON H DS442X
14	ED-348990	D SILICON H DS446
15	ED-720805	D SILICON H 1N5393
16	ED-720799	D ZENER H RD11E B3
17	ED-703903	D ZENER H RD15E B2
18	*EF-358641	FUSE BET T 250V 800MA [E,V,B,S]
19	EH-720815	FILTER KM-10DF [MPX NR]
20	EI-345551	IC LB1403
21	EI-709250	IC M51522L
22	EI-310036	IC TC4066BP
23	EI-720804	IC UPC1210C
24	EO-720816	COIL OSC MC-129J [BIAS]
25	ES-720768	SW LEAF MSW-1275 [REC]
26	ES-720769	SW LEAF MSW-1373NBK [PLAY]
27	ES-726489J	SW LEAF MSW-1541T
28	ES-726523J	SW LEAF MSW-1664 [TAPE SELECTOR]
29	ES-722984T	SW PUSH [TAPE SELECTOR]
30	*ES-720817	SW PUSH 125V 10A [POWER SW]
31	*ES-725477T	SW SLIDE [U]
32	ES-720798	SW SLIDE CL104K E8234438M [REC-PLAY]
33	ET-375780	TR FET 2SK381 E F05
34	ET-308472	TR 2SA1115 E,F,G F05
35	ET-666393	TR 2SC1211 E,F
36	ET-330225	TR 2SC1815 BL
37	ET-308141	TR 2SC2603 G F05
38	ET-338410	TR 2SC2878 A,B
39	ET-371028	TR 2SD1266 P,Q
40	EV-725459T	VR [REC BALANCE]
41	EV-727058T	VR W VB161GPV25F-15A 503 [REC LEVEL]
42	HE-720760	HEAD E
43	HP-720759	HEAD R/P HX-A305W
44	MB-720770	BELT COUNTER
45	MB-717803	BELT MAIN
46	MB-717820	BELT MAIN P
47	MB-726455J	BELT RF
48	MC-720777	COUNTER HX-A305W
49	MI-726456J	GEAR TAKE-UP
50	MZ-717796	GEAR FF

2. MECHA BLOCK

Ref. No.	Part No.	Description
11	ML-717774	LEVER PAUSE
12	ZG-717775	SP PAUSE LEVER
13	MZ-717776	STOPPER PAUSE
14	ZG-717777	SP BUTTON LEVER(C)
22	ZG-726488J	SP BUTTON LEVER (E)
23	ES-726489J	SW LEAF MSW-1541T
27	HZ-717780	HEAD BASE
28	ML-717781	LEVER DETECTION
29	ZG-717782	SP EH
30	ZG-717784	SP HEAD PANEL (S)
31	HZ-717785	HEAD BASE
34	ZG-717786	SP AZIMUTH
35	ML-717787	ARM PINCH ROLLER PART R/P
36	ZG-717788	SP PINCH ROLLER R/P
39	BL-721068	PULLEY RF ASSY
40	ZG-726497J	SP RF PULLEY ARM
42	MB-726455J	BELT RF
43	BF-717792	FLYWHEEL PART P
44	BF-717793	FLYWHEEL ASSY
47	MI-726456J	GEAR TAKE-UP
49	MZ-717796	GEAR FF
50	ZG-726504J	SP BACK TENSION
51	BR-726505J	SUPPLEY REEL ASSY
52	BR-717799	TAKE-UP REEL TABLE BLK
53	ML-717800	LEVER REC DETECTION
54	ZG-717801	SP BACK TENSION TU
56	MB-726509J	CUSHION MOTOR
57	ZS-725791J	SCREW COLLAR
58	MR-719575	MOTOR PULLEY
59	MB-717803	BELT MAIN
61	MB-717820	BELT MAIN P
62	ML-726511J	LEVER EJECT SLIDE
63	ZG-717806	SP LEVER SLIDE EJECT
64	SP-726512J	SP CASSETTE PACK
66	HP-720759	HEAD R/P HX-A305W
67	HE-720760	HEAD E
68	BM-720761	MOTOR M9H12U16-4CCW
78	ZS-717809	SCREW AZIMUTH
79	ES-720769	SW LEAF MSW-1373NBK [PLAY]
82	ZW-720762	PW12X030X025NYL
83	ZW-720763	PW 12X20X04NYL
84	ZW-720765	PW155X380X050NYL
85	ZW-720766	PW205X400X040NYL
87	ML-717811	LEVER OPERATION
90	ZS-362011	(+)PAN20X07STL BNI
96	ES-726523J	SW LEAF MSW-1664 [TAPE SELECTOR]
142	ML-361092	LEVER OPERATION (2) PART
150	ML-361090	LEVER OPERATION (1) PART

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

MECHA BLOCK



A
B
C
G
D
E
F
H
B'
A'

3. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1A	BA-727059T	PC(#)MAIN BLK HX-A335W (U) [U]
1B	BA-727060T	PC(#) MAIN BLK HX-A335W [E,V,B,S]

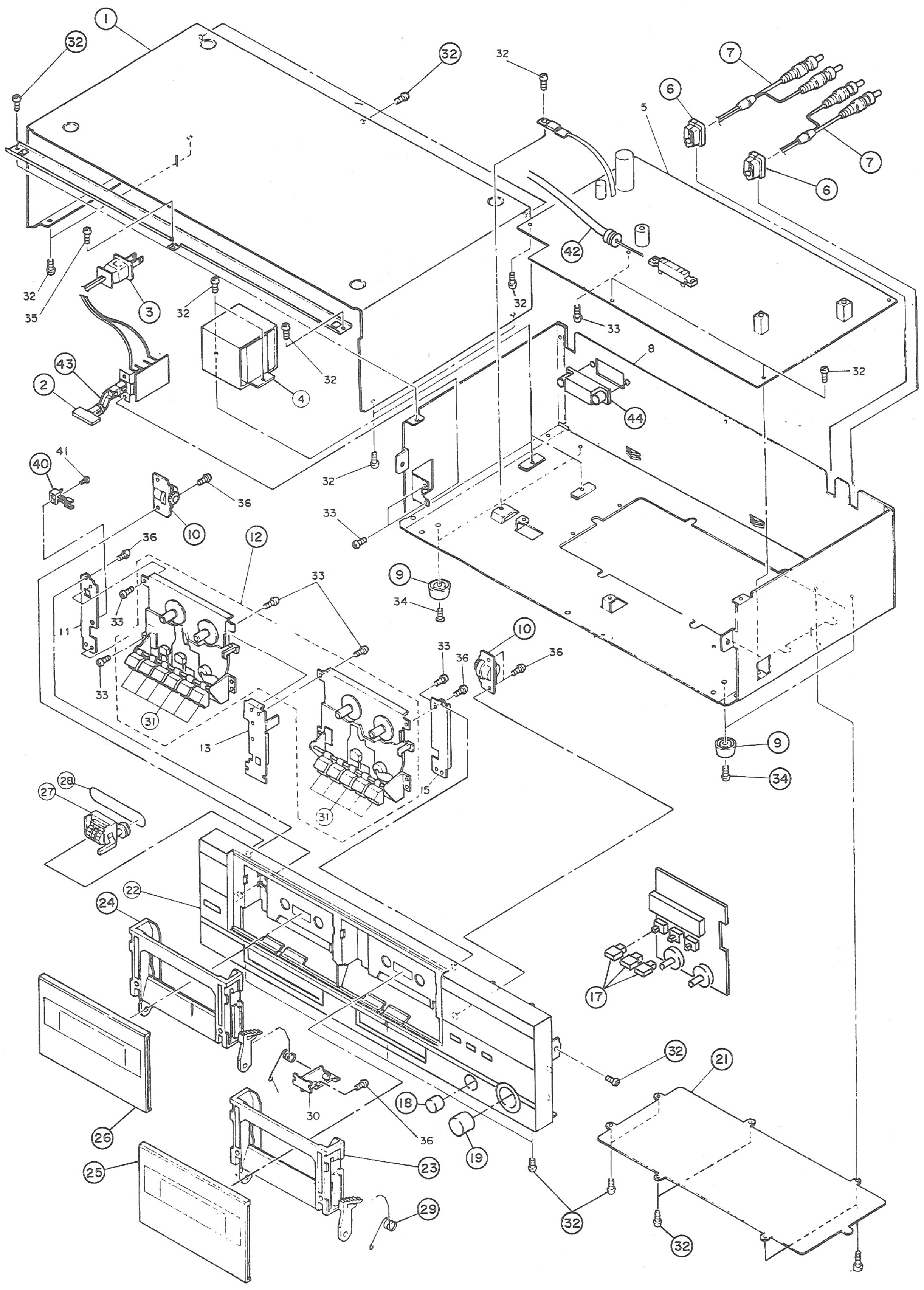
4. MAIN P.C BOARD

Ref. No.	Part No.	Description
D301	ED-327057	D SILICON H DS442X
D302	ED-327057	D SILICON H DS442X
D501	ED-327057	D SILICON H DS442X
D502	ED-327057	D SILICON H DS442X
D601	ED-720805	D SILICON H 1N5393
D602	ED-720805	D SILICON H 1N5393
D603	ED-348990	D SILICON H DS446
D604	ED-703903	D ZENER H RD15E B2
D605	ED-720799	D ZENER H RD11E B3
D606	ED-327057	D SILICON H DS442X
D607	ED-348990	D SILICON H DS446
D901	ED-327057	D SILICON H DS442X
D902	ED-327057	D SILICON H DS442X
D903	ED-327057	D SILICON H DS442X
D904	ED-327057	D SILICON H DS442X
D905	ED-327057	D SILICON H DS442X
D906	ED-327057	D SILICON H DS442X
D907	ED-327057	D SILICON H DS442X
D908	ED-327057	D SILICON H DS442X
D909	ED-327057	D SILICON H DS442X
D910	ED-327057	D SILICON H DS442X
D911	ED-327057	D SILICON H DS442X
D912	ED-327057	D SILICON H DS442X
D915	ED-327057	D SILICON H DS442X
FL101	EH-720815	FILTER KM-10DF [MPX NR]
FL201	EH-720815	FILTER KM-10DF [MPX NR]
IC101	EI-709250	IC M51522L
IC102	EI-310036	IC TC4066BP
IC103	EI-720804	IC UPC1210C
IC203	EI-720804	IC UPC1210C
IC301	EI-709250	IC M51522L
IC302	EI-310036	IC TC4066BP
L350	EO-720814	COIL FIX 153J V3615031-G
L351	EO-720813	COIL FIX 472J
L450	EO-720814	COIL FIX 153J V3615031-G
L451	EO-720813	COIL FIX 472J
Q101	ET-308141	TR 2SC2603 G F05
Q102	ET-308141	TR 2SC2603 G F05
Q103	ET-308141	TR 2SC2603 G F05
Q104	ET-338410	TR 2SC2878 A,B
Q105	ET-308141	TR 2SC2603 G F05
Q106	ET-308141	TR 2SC2603 G F05
Q201	ET-308141	TR 2SC2603 G F05
Q202	ET-308141	TR 2SC2603 G F05
Q203	ET-308141	TR 2SC2603 G F05
Q204	ET-338410	TR 2SC2878 A,B
Q206	ET-308141	TR 2SC2603 G F05
Q301	ET-308141	TR 2SC2603 G F05
Q302	ET-308472	TR 2SA1115 E,F,G F05
Q303	ET-308141	TR 2SC2603 G F05
Q350	ET-308141	TR 2SC2603 G F05
Q351	ET-308141	TR 2SC2603 G F05
Q352	ET-308141	TR 2SC2603 G F05
Q353	ET-308141	TR 2SC2603 G F05
Q401	ET-308141	TR 2SC2603 G F05
Q450	ET-308141	TR 2SC2603 G F05
Q451	ET-308141	TR 2SC2603 G F05
Q452	ET-308141	TR 2SC2603 G F05
Q453	ET-308141	TR 2SC2603 G F05
Q501	ET-308141	TR 2SC2603 G F05
Q502	ET-330225	TR 2SC1815 BL
Q503	ET-330225	TR 2SC1815 BL
Q504	ET-308141	TR 2SC2603 G F05
Q601	ET-375780	TR FET 2SK381 E F05
Q602	ET-666393	TR 2SC1211 E,F
Q603	ET-371028	TR 2SD1266 P,Q
Q604	ET-308141	TR 2SC2603 G F05
Q605	ET-308141	TR 2SC2603 G F05
Q606	ET-308141	TR 2SC2603 G F05
Q901	ET-308472	TR 2SA1115 E,F,G F05
Q902	ET-308141	TR 2SC2603 G F05
Q903	ET-308141	TR 2SC2603 G F05
Q904	ET-308472	TR 2SA1115 E,F,G F05
Q906	ET-308141	TR 2SC2603 G F05
Q907	ET-308141	TR 2SC2603 G F05
Q909	ET-308472	TR 2SA1115 E,F,G F05
Q910	ET-308472	TR 2SA1115 E,F,G F05
R927	ER-720801	R THERMO H 1/4S 150-J LT2600
R928	ER-720801	R THERMO H 1/4S 150-J LT2600
R929	ER-720800	R THERMO 1/4S 1.6K-J LT0700
R930	ER-720800	R THERMO 1/4S 1.6K-J LT0700
S301	ES-720798	SW SLIDE CL104K E8234438M [REC-PLAY]
T501	EO-720816	COIL OSC MC-129J [BIAS]
VR101	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR103	EV-720809	R S-FIX H V8EK-PV 0.20W 473
VR201	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR203	EV-720809	R S-FIX H V8EK-PV 0.20W 473
VR301	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR350	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR401	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR450	EV-720807	R S-FIX H V8EK-PV 0.20W 223
VR501	EV-355120	R S-FIX H V8EK-PV 0.20W 104
VR502	EV-355120	R S-FIX H V8EK-PV 0.20W 104
VR909	EV-371287	R S-FIX H VM6CKPVB 0.30W 204
VR910	EV-371287	R S-FIX H VM6CKPVB 0.30W 204
F1	✱EF-358641	FUSE BET T 250V 800MA [E,V,B,S]

5. FRONT P.C BOARD

Ref. No.	Part No.	Description
D701	ED-720783	D LED LTL-3233A GREEN
D702	ED-720783	D LED LTL-3233A GREEN
D703	ED-720783	D LED LTL-3233A GREEN
D704	ED-720784	D LED LTL-3293A YELLOW
D705	ED-720784	D LED LTL-3293A YELLOW
D801	ED-720783	D LED LTL-3233A GREEN
D802	ED-720783	D LED LTL-3233A GREEN
D803	ED-720783	D LED LTL-3233A GREEN
D804	ED-720784	D LED LTL-3293A YELLOW
D805	ED-720784	D LED LTL-3293A YELLOW
D930	ED-720784	D LED LTL-3293A YELLOW [REC]
D940	ED-720784	D LED LTL-3293A YELLOW [POWER]
D950	ED-720783	D LED LTL-3233A GREEN [DOLBY NR]
IC701	EI-345551	IC LB1403
IC801	EI-345551	IC LB1403
S930	ES-722984T	SW PUSH [TAPE SELECTOR]
S940	ES-722984T	SW PUSH [DUBBING SPEED]
S950	ES-722984T	SW PUSH [DOLBY NR]
VR1	EV-725459T	VR [REC BALANCE]
VR2	EV-727058T	VR W VB161GPV25F-15A 503 [REC LEVEL]

FINAL ASSEMBLY BLOCK



6. POWER SW P.C BOARD

Ref. No.	Part No.	Description
C1	✻EC-338496	C CE V FZ 472P 400AC
S1	✻ES-720817	SW PUSH 125V 10A [POWER SW]

7. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1	SP-727052T	COVER UPPER HX-A335W
2	SK-720593	KNOB POWER
3A	✻EW-374894	AC CORD 2C VM-0129A,VFF U/T [U]
3B	✻EW-347897	AC CORD 2 CORES VM0364,LCFL EV [E,V]
3C	✻EW-727063T	AC CORD BS6500 (B) [B]
3D	✻EW-347898	AC CORD 2 CORES VM-0436,LCFL S [S]
4A	✻BT-725637T	TRANS POW HX-M459W(U) [U]
4B	✻BT-725636T	TRANS POW HX-M459W(E,V) [E,V]
4C	✻BT-725635T	TRANS POW HX-M459W(B,S) [B,S]
6	EZ-371605	BUSH CORD 2271
7	EW-720796	CORD RCA
9	SA-727152T	LEG PART
10	MZ-720774	DUMPER
12	BB-720738	MECH BLK HX-A305W
17	SK-725476T	KNOB PUSH-B
18	SK-727055T	KNOB BALANCE [REC BALANCE]
19	SK-727056T	KNOB TONE [REC LEVEL]
21	SP-727062T	LOWER COVER HX-A335W
22	BD-727057T	PANEL FRONT BLK HX-A335W
23	SZ-721063	HOLDER PL
24	SZ-721063	HOLDER PL
25	BD-727053T	LID CASSETTE TAPE-1
26	BD-727054T	LID CASSETTE TAPE-2
27	MC-720777	COUNTER HX-A305W
28	MB-720770	BELT COUNTER
29	ZG-727092T	SP T.D.C.
31	SK-720771	KNOB DECK
32	ZS-320906	ST BR30X06STL CMT
34	ZS-331568	T2BR30X10STL CMT C080
40	ES-720768	SW LEAF MSW-1275 [REC]
42	MZ-720772	JOINT REC
43	MZ-727061T	LINK POWER
44	✻ES-725477T	SW SLIDE [U]

NOTE:
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ABBREVIATIONS FOR SERVICE MANUAL (CASSETTE)

Abbreviation	Explanation	Abbreviation	Explanation
AC	Alternating Current	MIN	MINute
A/D	Analog/Digital	MML	Maximum Modulation Level
AF	Auto Fader	MOL	Maximum Output Level
AMP	AMPlifier	MPX	Multi PleX
AR	Anti Recording	NC	Not Connected (No Connection)
AT BIAS	Auto Turning BIAS	NFB	Negative Feed Back
ATT	ATTenuator	NORM	NORMal
BAL	BALance	NR	Noise Reduction
BEF	Band Elimination Filter	OSC	OSCillator (OSCillation)
BSS	Blank Search System	P	Pulse
CAP M	CAPstan Motor	PB	Play Back
CH	CHannel	QMSS	Quick Memory Search System
COMP	COMParator	QR	Quick Reverse
CONT	CONTinuance	R CH	Right CHannel
CRLP	Computer Recording Level Processing	REC	RECord (RECording)
CS	Chip Select	REV	REVerse
D/A	Digital/Analog	ROT	ROTation
DC	Direct current	REW	REWind
DET	DETector	SEC	SECond
DISCRI	DISCRIminator	SELE	SELEctor
DUB	DUBbing	SENS	SENSitivity
EQ	EQualizer	SEPP	Single Ended Push Pull
FF (or F.FWD)	Fast Foward	SIG	SIGnal
FLD	FLuoresent Display	SPECT	SPECTrum
FREQ	FREQuency	STD	STanDard
FWD	ForWarD	SW	SWitch
GND	GrouND	SYSCON	SYStem CONtrol
H	High	TP	Test Point
HPF	High Pass Filter	TRIG	TRIGa
IND	INDicator	VCA	Voltage Control Attenuator
IPLS	Instant Program Location System	VOL	VOLume
L	Low	VOLT	VOLtage
L CH	Left CHannel	VR	Variable Resistor
LED	Light Emitining Diode	X'TAL	cysTAL
MEMO	MEMOry	X1	Normal speed
MICOM	MIcroCOMputer	X2	Dubble speed

AKAI

MODEL HX-A335W

SCHEMATIC DIAGRAM AND PC BOARDS

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INTERNAL DIAGRAMS AND PINOUT OF INTEGRATED CIRCUITS

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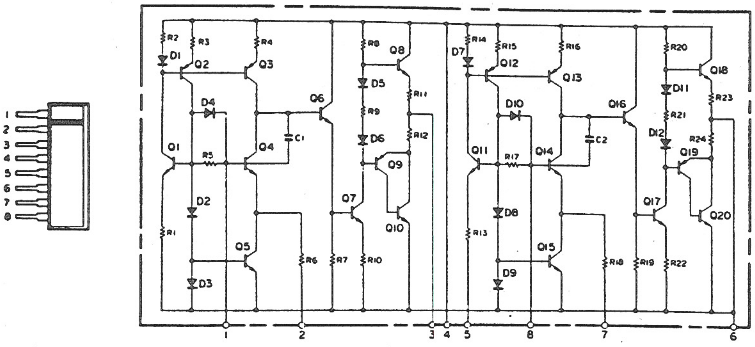
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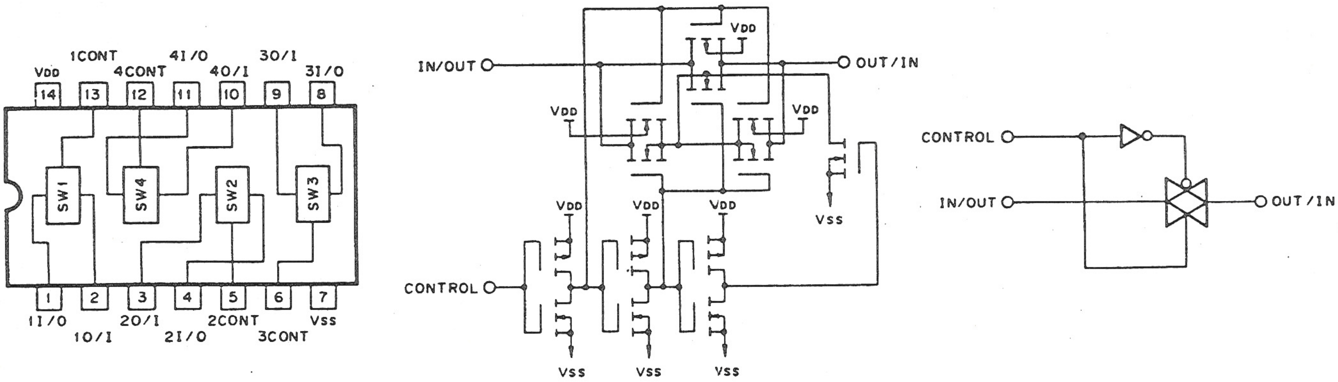
R22

IC102, IC302 : CD4066B, BU4066B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SW2
SW3
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6
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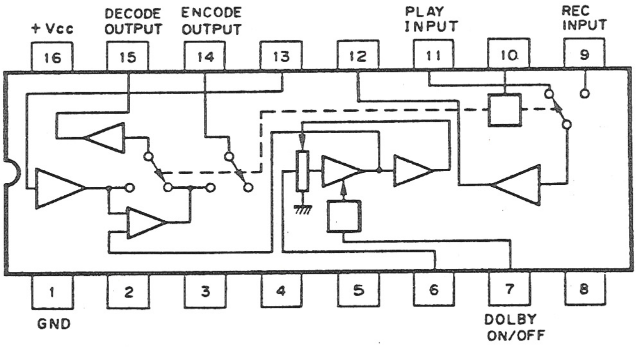
OUT/IN

IC103, IC203 : μPC1210C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ENCODE OUTPUT
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11
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9
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2
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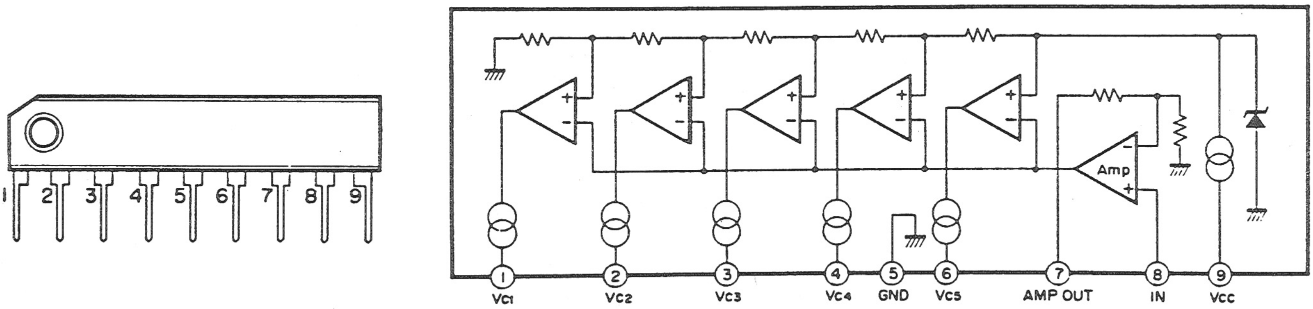
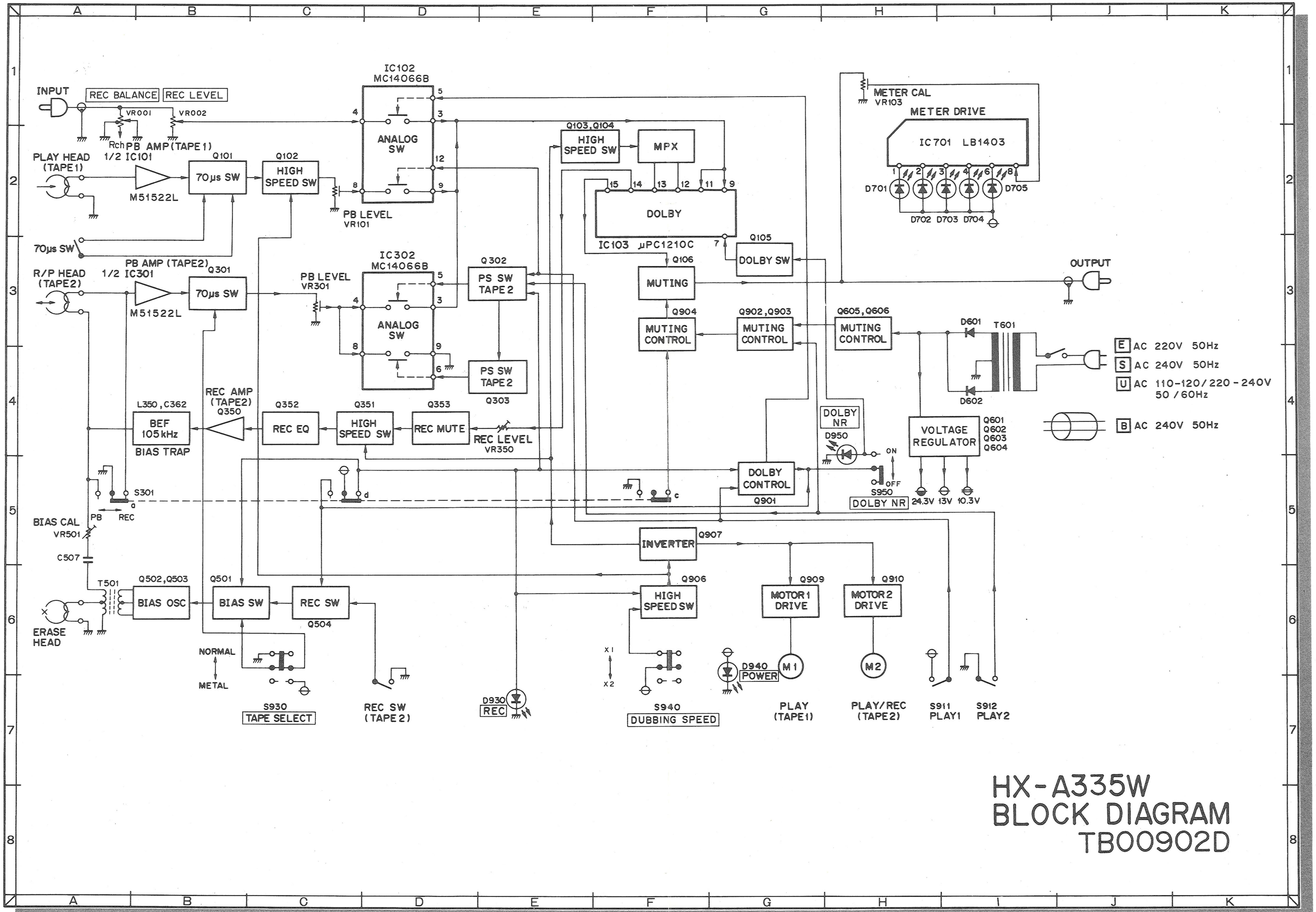
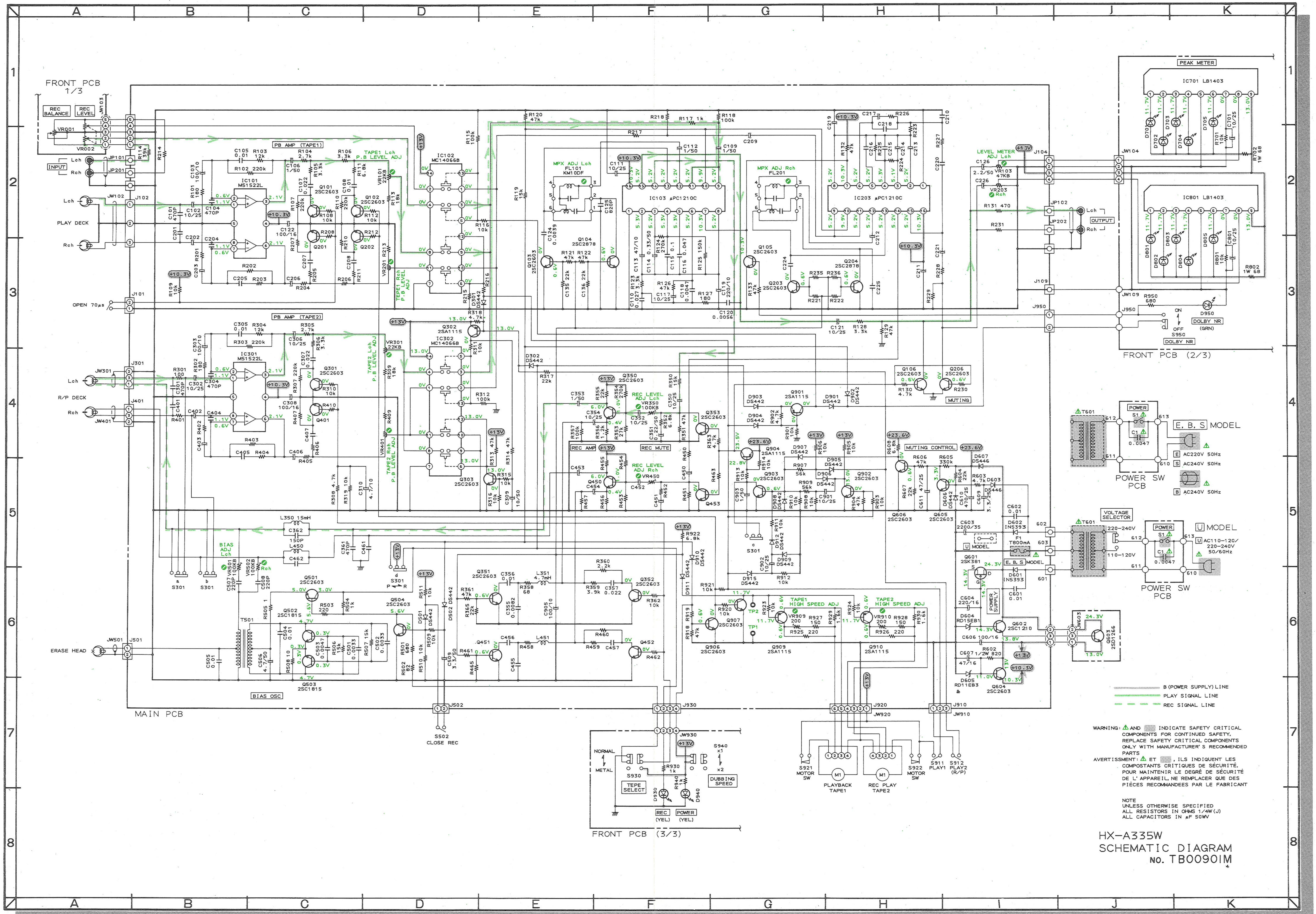
5
6
7
8
GND
DOLBY ON/OFF

IC701, IC801 : LB1403


1
2
3
4
5
6
7
8
9
Amp
VC1
VC2
VC3
VC4
GND
VC5
AMP OUT
IN
Vcc


INPUT
REC BALANCE
REC LEVEL
VR001
VR002
Rch
PB AMP (TAPE 1)
1/2 IC101
M51522L
PLAY HEAD (TAPE 1)
Q101
70μs SW
Q102
HIGH SPEED SW
PB LEVEL
VR101
70μs SW
IC102
MC14066B
ANALOG SW
Q103, Q104
HIGH SPEED SW
MPX
DOLBY
IC103 μPC1210C
Q105
DOLBY SW
Q106
MUTING
METER CAL
VR103
METER DRIVE
IC701 LB1403
D701
D702 D703 D704
D705
OUTPUT
R/P HEAD (TAPE 2)
PB AMP (TAPE 2)
1/2 IC301
M51522L
Q301
70μs SW
PB LEVEL
VR301
IC302
MC14066B
ANALOG SW
Q302
PS SW TAPE 2
PS SW TAPE 2
Q303
Q904
MUTING CONTROL
Q902, Q903
MUTING CONTROL
Q605, Q606
MUTING CONTROL
D601
T601
D602
E AC 220V 50Hz
S AC 240V 50Hz
U AC 110-120/220-240V 50/60Hz
B AC 240V 50Hz
L350, C362
BEF 105kHz
BIAS TRAP
REC AMP (TAPE 2)
Q350
Q352
REC EQ
Q351
HIGH SPEED SW
Q353
REC MUTE
REC LEVEL
VR350
DOLBY NR
D950
ON
OFF
S950
DOLBY NR
DOLBY CONTROL
Q901
VOLTAGE REGULATOR
Q601
Q602
Q603
Q604
24.3V
13V
10.3V
S301
PB
REC
BIAS CAL
VR501
C507
T501
Q502, Q503
BIAS OSC
Q501
BIAS SW
REC SW
Q504
INVERTER
Q907
Q906
HIGH SPEED SW
Q909
MOTOR 1 DRIVE
Q910
MOTOR 2 DRIVE
M1
M2
ERASE HEAD
NORMAL
METAL
S930
TAPE SELECT
REC SW (TAPE 2)
D930
REC
X1
X2
S940
DUBBING SPEED
D940
POWER
PLAY (TAPE 1)
PLAY/REC (TAPE 2)
S911
PLAY1
S912
PLAY2
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8

HX-A335W
BLOCK DIAGRAM
TB00902D


FRONT PCB 1/3
REC BALANCE
REC LEVEL
VR001
VR002
INPUT
Lch
Rch
PLAY DECK
R/P DECK
OPEN 70μs
ERASE HEAD
MAIN PCB
PB AMP (TAPE1)
PB AMP (TAPE2)
IC101 M51522L
IC301 M51522L
IC102 MC14066B
IC302 MC14066B
TAPE1 Lch P.B LEVEL ADJ
TAPE1 Rch P.B LEVEL ADJ
TAPE2 Lch P.B LEVEL ADJ
TAPE2 Rch P.B LEVEL ADJ
MPX ADJ Lch
FL101 KM10DF
MPX ADJ Rch
FL201
IC103 μPC1210C
IC203 μPC1210C
LEVEL METER ADJ Lch
ADJ Rch
OUTPUT
PEAK METER
IC701 LB1403
IC801 LB1403
DOLBY NR
(GRN)
FRONT PCB (2/3)
MUTING
MUTING CONTROL
REC AMP
REC MUTE
REC LEVEL ADJ Lch
REC LEVEL ADJ Rch
BIAS ADJ Lch
BIAS ADJ Rch
BIAS OSC
TAPE1 HIGH SPEED ADJ
TAPE2 HIGH SPEED ADJ
POWER SUPPLY
POWER SW PCB
E. B. S MODEL
AC220V 50Hz
AC240V 50Hz
U MODEL
AC110~120/220~240V 50/60Hz
VOLTAGE SELECTOR
T800mA
S502 CLOSE REC
NORMAL
METAL
TEPE SELECT
DUBBING SPEED
REC (YEL)
POWER (YEL)
FRONT PCB (3/3)
S921 MOTOR SW
PLAYBACK TAPE1
REC PLAY TAPE2
S922 MOTOR SW
S911 PLAY1
S912 PLAY2 (R/P)
A B C D E F G H I J K
1 2 3 4 5 6 7 8

B (POWER SUPPLY) LINE
PLAY SIGNAL LINE
REC SIGNAL LINE

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50WV

HX-A335W
SCHEMATIC DIAGRAM
NO. TB0090IM
4

LOCATION OF COMPONENT

IC

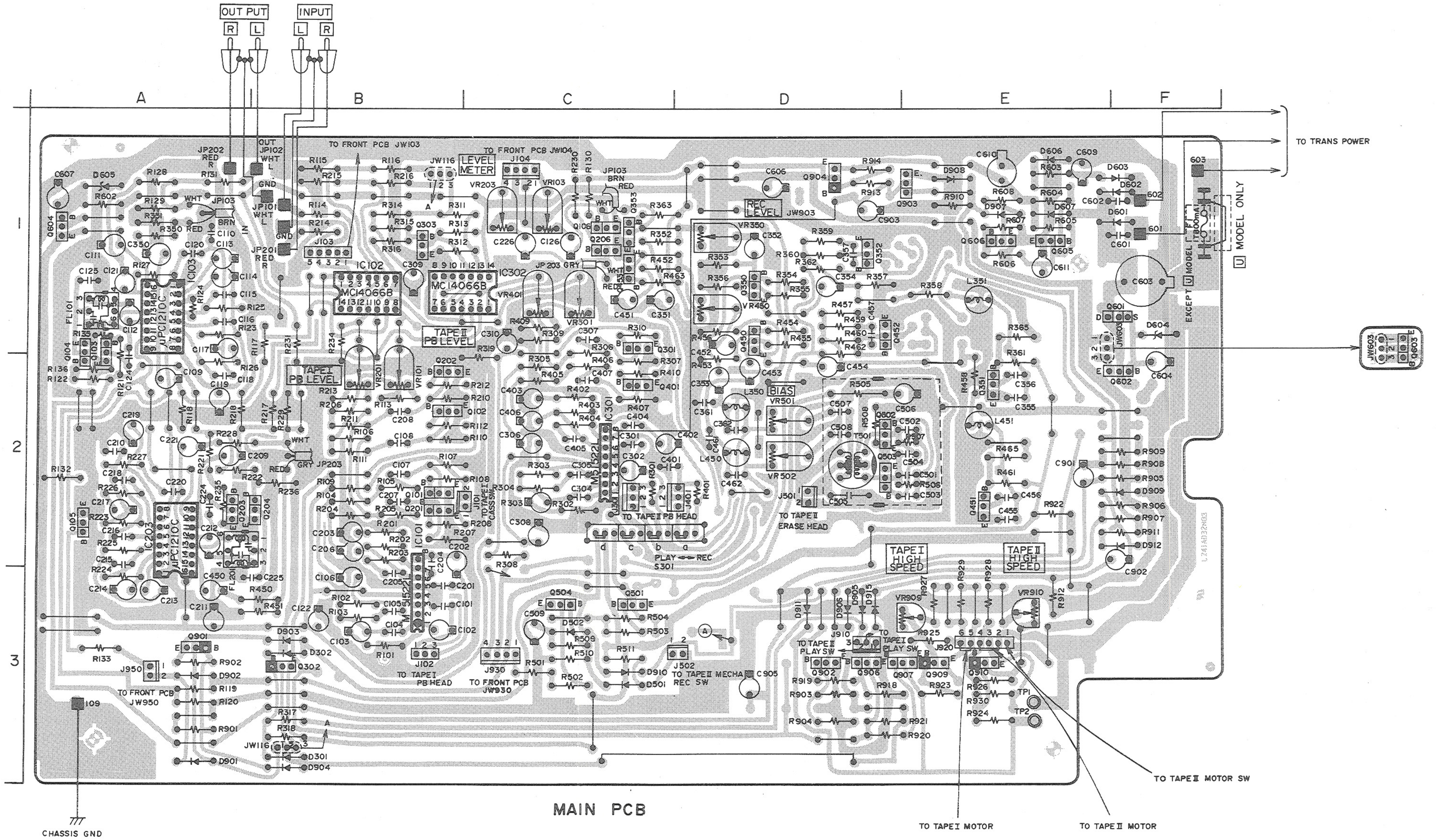
IC101	B3
IC102	B1
IC103	A1
IC203	A2
IC301	C2
IC302	C1

TR

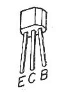
Q101	B2
Q102	B2
Q103	A1
Q104	A1
Q105	A2
Q106	C1
Q201	B2
Q202	B2
Q203	A2
Q204	B2
Q206	C1
Q301	C2
Q302	B3
Q303	B1
Q350	D1
Q351	E2
Q352	D1
Q353	C1
Q401	C2
Q450	D1
Q451	E2
Q452	D1
Q453	C1
Q501	C3
Q502	D2
Q503	D2
Q504	C3
Q601	F1
Q602	F2
Q603	
Q604	A1
Q605	E1
Q606	E1
Q901	A3
Q902	D3
Q903	E1
Q904	D1
Q906	D3
Q907	E3
Q909	E3
Q910	E3

CONNECTOR

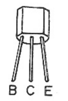
J101	C2
J102	B3
J103	B1
J104	C1
J301	C2
J401	C2
J501	D2
J502	D3
J910	D3
J920	E3
J930	C3
J950	A3


OUT PUT
R
L
INPUT
L
R
A
B
C
D
E
F
1
2
3
TO TRANS POWER
TO FRONT PCB JW103
TO FRONT PCB JW104
LEVEL METER
IC102 MC14066B
IC302 MC14066B
IC101
IC103
IC203
IC301
TAPE I PB LEVEL
TAPE II PB LEVEL
REC LEVEL
BIAS
TAPE I HIGH SPEED
TAPE II HIGH SPEED
TO TAPE I ERASE HEAD
PLAY ⟷ REC S301
TO TAPE I PB HEAD
TO TAPE II PB HEAD
TO FRONT PCB JW930
TO FRONT PCB JW950
TO TAPE II MECHA REC SW
TO TAPE II PLAY SW
TAPE I PLAY SW
EXCEPT U MODEL
U MODEL ONLY
JW603
Q603
TO TAPE II MOTOR SW
TO TAPE I MOTOR
TO TAPE II MOTOR
CHASSIS GND

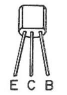
MAIN PCB



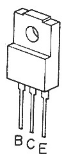
2SC2603
2SA1115



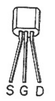
2SC1210

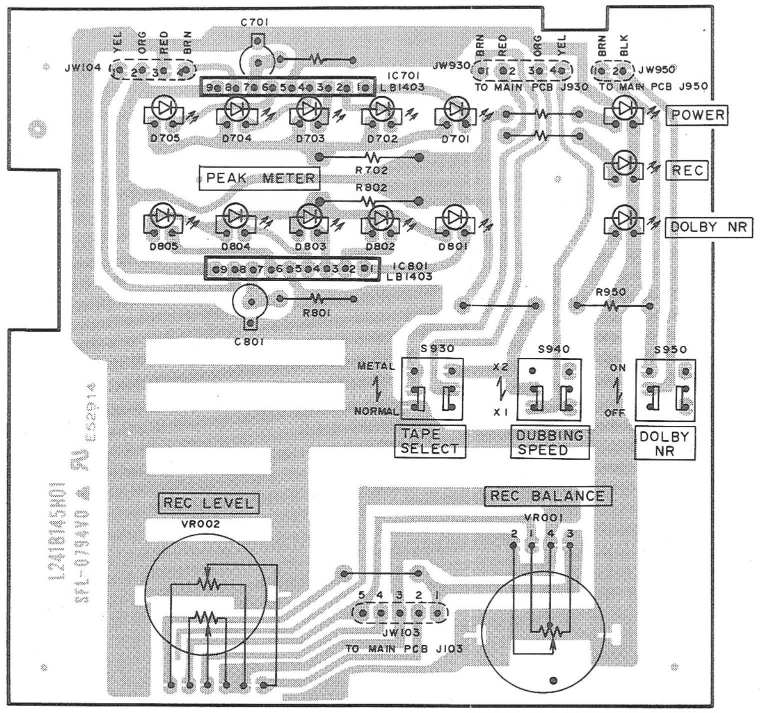


2SC1815
2SC2878

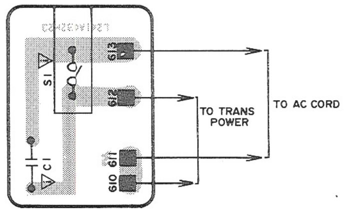


2SD1266




C701
JW104
YEL
ORG
RED
BRN
IC701 LB1403
JW930
BRN
RED
ORG
YEL
BRN
BLK
JW950
TO MAIN PCB J930
TO MAIN PCB J950
D705
D704
D703
D702
D701
POWER
REC
DOLBY NR
PEAK METER
R702
R802
D805
D804
D803
D802
D801
IC801 LB1403
R801
C801
R950
S930
S940
S950
METAL
NORMAL
TAPE SELECT
X2
X1
DUBBING SPEED
ON
OFF
DOLBY NR
REC LEVEL
VR002
REC BALANCE
VR001
JW103
TO MAIN PCB J103
L241B145H01
SFI-0794V0
E52914

FRONT PCB

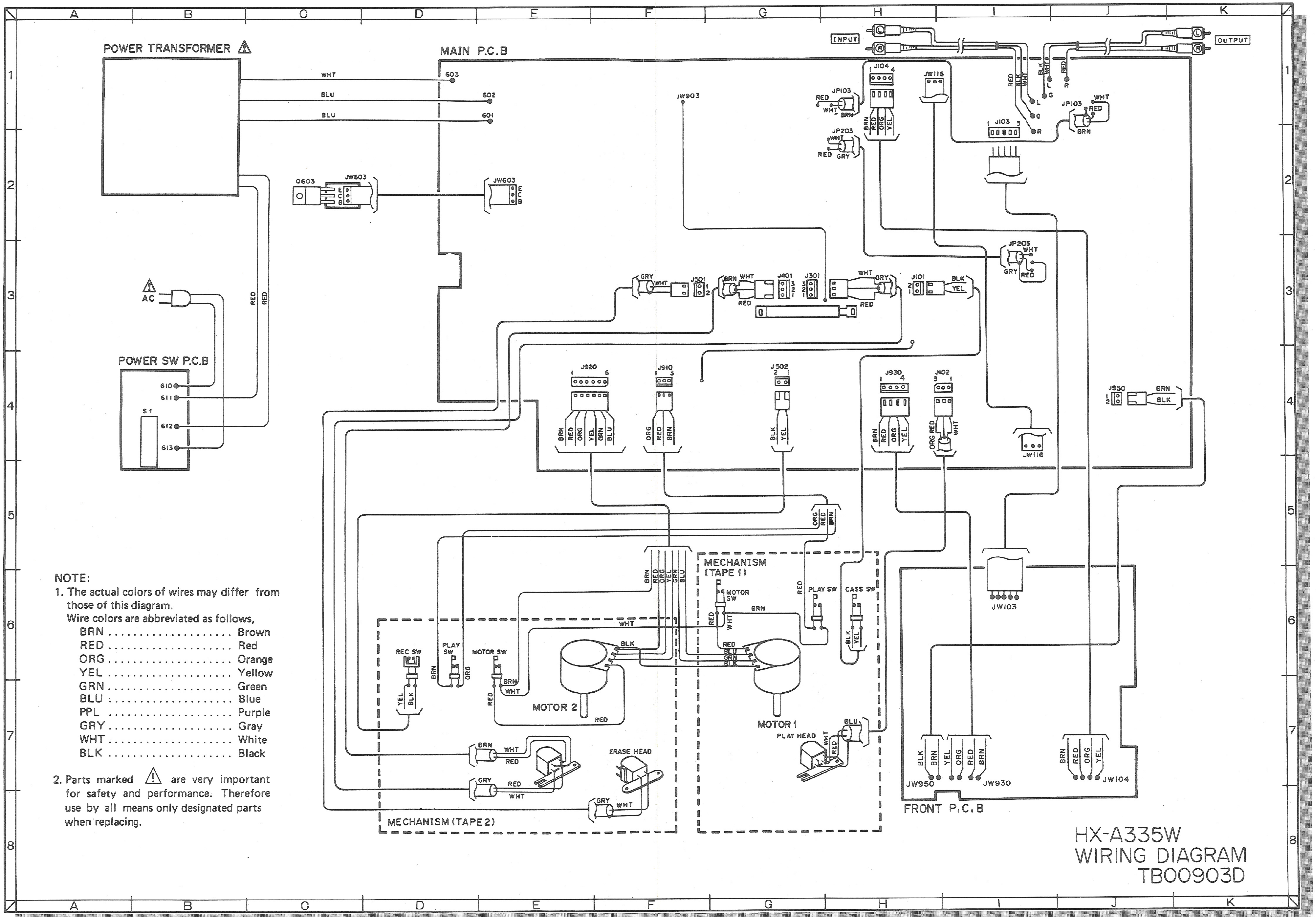

S1
C1
613
612
611
610
TO TRANS POWER
TO AC CORD

POWER SW PCB

2SC2603
Q101, Q102, Q103, Q105, Q106
Q201, Q202, Q203, Q206, Q301
Q303, Q350, Q351, Q352, Q353
Q401, Q450, Q451, Q452, Q453
Q501, Q504, Q604, Q605, Q606
Q902, Q903, Q906, Q907,
2SC2878
Q104, Q204,
2SA1115
Q302, Q901, Q904, Q909, Q910
2SC1815
Q502, Q503
2SK381
Q601
2SC1210
Q602
2SD1266
Q603

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


POWER TRANSFORMER ⚠
MAIN P.C.B
WHT
BLU
BLU
603
602
601
JW903
INPUT
OUTPUT
J104
JW116
JP103
JP203
J103
Q603
JW603
E
C
B
AC
POWER SW P.C.B
610
611
612
613
S1
J501
J401
J301
J101
J920
J910
J502
J930
J102
J950
JW116
MECHANISM (TAPE 1)
MOTOR SW
PLAY SW
CASS SW
MOTOR 1
PLAY HEAD
MECHANISM (TAPE 2)
REC SW
PLAY SW
MOTOR SW
MOTOR 2
ERASE HEAD
JW103
JW950
JW930
JW104
FRONT P.C.B
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8

NOTE:

1. The actual colors of wires may differ from those of this diagram.
   Wire colors are abbreviated as follows,

BRN	Brown
RED	Red
ORG	Orange
YEL	Yellow
GRN	Green
BLU	Blue
PPL	Purple
GRY	Gray
WHT	White
BLK	Black

2. Parts marked ⚠ are very important for safety and performance. Therefore use by all means only designated parts when replacing.

HX-A335W
WIRING DIAGRAM
TB00903D